

Assessment of Parents' Knowledge, Practices and Attitude Toward Care for Their Epileptic Children

Rasha Ibrahime Bakier Elmohalem* Safaa Salah Ismail**, Madiha Hassan Bayomi***

*Researcher

** Pediatric Nursing Department, Faculty of Nursing- Helwan University

*** Pediatric Nursing Department, Faculty of Nursing- Banha University

Abstract

Background Epilepsy is the commonest serious neurological condition of childhood. It is a group of chronic disorders in which the indispensable feature is recurrence of seizure. Parents play the most significant role in caring for their children and helping them adapt to their conditions, especially mothers. The **aim** of the present study was to assess parents' knowledge, practice and attitude toward care for their epileptic children at Helwan General Hospital, and Helwan fever Hospital. A **descriptive design** was conducted on a sample of 100 parents of children with epilepsy at the pediatric neurology outpatient clinic and in-patient units at Helwan General Hospital, Helwan Fever Hospital in Elkahera Governorate, Egypt. **Three tools** were used in this study, the first was a questionnaire interview sheet to collect data about studied parents and their children, and to assess parents' knowledge about epilepsy. The Second was seizure severity scale. The Third tool was a questionnaire sheet about parents's knowledge regarding practices in caring for their epileptic children. **Results** indicated that the majority of the studied parents' (mothers) had a poor knowledge score about epilepsy while ,75/ had moderate knowledge score (**Satisfactory level**). Most of the studied parents' total care practices score was incompetent. More over there was a positive correlation between parents' total knowledge score and their total knowledge about care practices score with person's correlation coefficient ($r= 0.43$, $p= 0.001$). Based n the result of the present study, it could be **recommended** that the educational programs for parents of epileptic children about epilepsy and its care should be conducted and establishing a standard of care for children with epilepsy in hospital and clinics is essential.

Key words: Epilepsy, Children, Parents knowledge about epilepsy, Parents care.

Introduction

Childhood epilepsy is a common serious neurological disorder in children and can has a major impact on a child's health and development. It starts in childhood in 60% of cases and most of the clinically significant aspects of the disease occur during childhood (Gerald & Golden, 2012; Jonsson et al. 2014). Mehndiratta et al (2015) add that epilepsy is a multifaceted chronic disorder which has diverse and complex effects on the overall

well-being of children including physical, psychological, social as well as financial aspects, and has a great negative impact on a child's life.

Bernard et al., (2014) stated the epilepsy is a chronic brain disorder characterized by recurrent seizures. A seizure is a sudden, transient disturbance of brain function, manifested by involuntary motor, sensory, or psychic phenomena, alone or in any combination, often accompanied by alteration or loss of consciousness.

Repeated seizures without an evident acute symptomatic cause or provocation are defined as epilepsy.

Epilepsy is a worldwide problem that affects approximately 70 million people of all ages (Ngugi et al 2013). Nearly 90% of whom are living in low and middle income countries (LMIC), where it remains a major public health problem, not only because of its health implications but also for its social, cultural, psychological and economic correlations (Hattier et al, 2015).

The higher prevalence and incidence of epilepsy in poorer countries is attributed to a greater incidence of some factors as focal brain insult, trauma and infections (i.e bacterial meningitis) and other infections which are common in these regions (Newtone & Wagner, 2014).

According to American Association of Neurological Surgeons [AANS] (2015), epilepsy affects 3 million people in the United States, about 150,000 new cases are diagnosed each year, and about 300,000 people with epilepsy are under the age of 14.

In Egypt, Mahmoud, (2013) reported that seizures are the most frequent reason for visits to the pediatric neurologist clinic. Approximately 50% of epilepsy begin in childhood or adolescence. The prevalence rate was 12.9 per 1000 and in the children is 4-6 per 1000 child. in(2013), a study conducted by (Khedr et al) in Egypt detected that the prevalence rate of epilepsy is 9.3/1000 while the incidence rate is 1.5/1000. Epilepsy is slightly high in males than in females, as well as the highest prevalence rate is recorded in the early and late childhood group.

Epilepsy can be caused by genetic, structural, metabolic or unknown factors.

Among the structural factors, the most common causes in developing countries are infectious and parasitic diseases, perinatal brain damage, vascular disease, and head trauma. The prognosis of epilepsy depends on the etiology of the illness as well as on early and sustained treatment. It is estimated that up to 70% of people with epilepsy can live normal life if they receive proper care (Perez, 2012).

The impact of epilepsy on a child is a combination of physical consequences of the seizure, the effect on the social position, and the physiological outcome or both of them. Furthermore, not only the child with epilepsy but also the family and indirectly the community are affected (Ferro & Speechley, 2013). In addition, children with epilepsy are at increased risk of behavioral, emotional, cognitive, social and psychiatric problems which can adversely affect children's developmental outcomes and considered being more handicapping than the seizure manifestation itself (Jonsson et al, 2014).

Nurses play a corner stone in the process of managing children with epilepsy. An important nursing responsibility is the management of children's seizure which focuses on preventing injury during seizures, administering appropriate medication and treatments to prevent or reduce seizures, and monitoring neurologic status closely (Ricci & Kyle, 2013).

Subjects And Methods

Research design

A descriptive research design was utilized in this study to achieve the aim of the study.

Research Setting:

This study was conducted at pediatric neurology outpatient clinic and in-patient unit in Helwan Fever Hospital and Helwan General Hospital.

Research Subject:

A purposive sample of 100 (epileptic children) and their accompanying parents attending the previously mentioned settings who fulfill the following criteria was comprise the sample during the study period (6 Months).

Inclusive criteria:

- Age: from 2 to 10 years.
- Gender: Both sexes.
- Confirmed diagnosis with epilepsy.
- Free from any other chronic disease, such as; cardiac diseases, D.M., etc.

Tools of Data Collection:

Three tools were used for data collection of this study:

1- Tool I: A structured Interview Questionnaire Sheet: It was be developed by the researcher and included three parts.

Part I: It was Included:

A: Children characteristics; age, gender, birth order, residence, and academic data as (education, scholastic achievement and academic performances).

B: Parents' characteristics as age, level of education, occupation, and family income.

C: Medical and family history of

the children and their parents.

Part II: Parents' Knowledge about Epilepsy:

Knowledge of the parents about epilepsy, such as: meaning of epilepsy, causes, common age of onset, predisposing factors, methods of diagnosis, treatment options, side effects of antiepileptic medications. complications and problems associated with epilepsy.

Part III: Parents' attitude toward the effects of epilepsy on the child's life, increased risk of behavioral, emotional, cognitive, social, and psychiatric problems which can adversely affect children's developmental outcomes.

2- Tool II: Checklist:

This tool to assess parents reported practices about caring for their epileptic children. Before, during, and after the attack and assess measures taken in case of petit male and febrile epilepsy and management of antiepileptic drugs side effects.

3-Tool III: Seizure Severity Scale:

Seizure Severity Scale was adopted from (**Hans et al., 1996**). This scale was used to assess the severity of seizure and it consists of the following items regarding: seizure frequency, duration, level of consciousness, associated signs and symptoms as well as after the attack complains.

Scoring system:

Three tools were used to collect the necessary data.

Tool (1): A Structured interview questionnaire sheet

It was developed by the researcher under supervision of the supervisors to collect the required data after reviewing the relevant and current scientific literature and articles; it was designed in Arabic language to suit understanding of the study subjects to collect the required data. It was composed of the following parts:

Part 1: Characteristics of both Parents and children:

This part of the questionnaire included 50 open and closed ended questions concerned **with:**

- A. Parents' characteristics which included: age, education, occupation and family income (questions 1-4).
- B. Children's characteristics such as; age, gender, birth order, and residence (questions 5-8).
- C. Academic data that include: education, scholastic achievement and performance with respect to lessons, homework, exam scores and, school absenteeism as well as previous academic failure or success (questions 9-13).
- D. Medical history of the child including past and current history, as well as family history of the children and their parents (questions 14-32).

Part 2: Parents' knowledge about epilepsy

This part of the questionnaire covered parents' knowledge about epilepsy. It is composed of 12 questions such as meaning of epilepsy, causes, common age of occurrence, predisposing factors, methods of diagnosis, treatment options, duration of treatment, side effects of antiepileptic medications and dangerous activities that expose child to risk, as well as complications and

problems associated with epilepsy (questions 33-44).

Part 3: Parents' attitudes toward the effects of epilepsy on the child's life:

The attitudes toward the effect of epilepsy on the child's life included 6 items concerning marriage, study, work, complete his study without problems, cure from epilepsy with treatment and finally that the epileptic child is accepted from others (social stigma) (questions 45-50).

Scoring System for Parents' knowledge about epilepsy:

A: Total knowledge score was 90 grades. These grades were calculated as follows:

	Grades
• Meaning of epilepsy	5
• Causes	11
• Age of incidence	2
• Factors precipitating a seizure	12
• Methods of diagnosis	5
• Preventive methods of epilepsy	3
• Treatment options of epilepsy	4
• Duration of treatment	1
• Side effects of antiepileptic drugs	15
• Problems associated with epilepsy	25
• Dangers which expose child to risk during Fit	7

Regarding scoring system, the item discrete scores each scale were summed together after giving score of 1 point for each correct answer at knowledge and practice then the sum of scores for each dimension and total score was calculated by summing the scores

given for its responses. All scores were transformed into score % as follow:

- Satisfactory >60%
- Unsatisfactory <60%

Score % = (the observed score / the maximum score) × 100

B: Parents' attitudes toward the effect of epilepsy on a child's life

Total attitude score was 6 grades. Each item had two alternative responses. The positive attitude toward epilepsy scored (1) grade and the negative attitude scored (0). The mothers were asked to select the answer on each item according to how accurately the item described their feelings and beliefs toward the future of their epileptic children.

The total score was calculated for each mother by adding the scores of all questions. The higher the score; the positive the attitude, and the lower score indicating negative attitude.

- Positive attitude >60%
- Negative attitude <60%

Tool (II): Seizure Severity Scale: (Appendix II)

Seizure severity was assessed using Seizure Severity Scale which was developed by (Hans et al., 1996). It consisted of 13 items; that represent the following areas of content. Consciousness (4 questions), motor symptoms (2), incontinence (1), injuries/pain (3) and overall seizure severity (3).

Scoring System of tool II:

The scoring system was adopted with rating ranging from 0-3 (most favorable) points for each item. Each question response was either always (3 grades), usually (2 grades), sometimes (1 grade), or never (zero grade).

The total score was from 0-39 grades. The seizure severity was categorized as:

- Mild seizure = <24 grades
- Moderate seizure = 24-28 grades
- Sever seizure = 29-39 grades

Tool (III): Questionnaire sheet about parents' Knowledge regarding practices in caring for their epileptic children (Appendix III)

It was developed by the researcher to assess mother's practices in caring for their children before, during and after the attack and management of antiepileptic drugs' side effects. This included 9 questions (items) related to parents' knowledge about how to prevent fits, knowledge of mother about care before, during and after the fit, measures taken in case of petit male and febrile epilepsy, as well as precautions that should be taken to avoid side effects of antiepileptic medications (Questions from 1-9).

Scoring System of tool III:

The total score of parents' knowledge about practices in caring for their epileptic children totaled 48 grades and was calculated as follows:

	Grades
▪ Prevention of fit	4
▪ Care at the beginning of fit	3
▪ Care during epileptic fit	11
▪ Seeking medical help during the attack	9
▪ Care after epileptic fit	9
▪ Care in case of petit mal	3
▪ Care in case of febrile epilepsy	5
▪ Precautions that should be taken to avoid side effects of AEDs	3
▪ Management of AEDs side effects	1

The responses were scored 1 point for each right step performed and zero for wrong one.

Total knowledge about care practices score was classified into:

- Satisfactory >60%
- Unsatisfactory <60%

Operational Design:

The operational design included: the preparatory phase, content validity, pilot study and field work.

Preparatory Phase:

It was included reviewing of the current available literature relevant to the problem and theoretical knowledge of the study using books' articles' internet, periodicals and magazines at the local as well as the international levels to develop tools for data collection and to get acquainted with the various study aspect of the research problem.

Content validity and reliability:

The tools were revised for content validity by a panel of three experts in

pediatric nursing at Faculty of Nursing, Ain-Shams University and one of medical staff Helwan University. Their opinion was elicited regarding the format, layout, consistency, accuracy and relevancy of the tools and the necessary modifications were done accordingly', reliability will be performed by using Cornbrach's alpha-Coefficient test.

C-Pilot Study.

A pilot study was carried out on 10% (10) of the study subjects to test the applicability, clarity and efficiency feasibility of the tools so that, the nurses who included in the pilot study were excluded in the study sample .

Field work

Data were collected in 6 months (100 case) from the beginning of 15 July 2017 to 15 January 2018. The aim and the nature of the study were explained by the investigator to all parents that were included in the study and take their approval to participate in the study prior to any data collection. The investigator was assessing the parents' knowledge, practice and attitude about epilepsy by used self- administered questionnaire and observational checklist. The investigator was attended at the previously mentioned settings two days per week in the morning and afternoon shift. The answers for questionnaire were recorded by the parents themselves took about 45 minutes.

Administrative design

An official permission was be obtained from the Dean of Faculty of Nursing Helwan University to the hospital administrations to conduct the present study.

Ethical Considerations

The Ethical Research Considerations in this study included the following:

Prior study conduction, ethical approval was obtained from the Scientific Research Ethical Committee of Faculty of Nursing, Helwan University. The researcher clarified the aim of the study to or parents. Confidentiality of the gathered data and results were secured. parents was obtained. They were informed that they have the right to refuse to participate without reason. The study maneuvers do not entail any harm to participants.

Statistical design**Statistical analysis:**

Recorded data were analyzed using the Statistical Package for Social Sciences, (SPSS Inc., Chicago, Illinois, USA). version 20 Quantitative data were expressed as mean± standard deviation (SD). Qualitative data were expressed as frequency and percentage.

The following tests were done:

- Chi-square (X^2) test of significance was used in order to compare proportions between two qualitative parameters.
- Spearman's rank correlation coefficient (rs) was used to assess the degree of association between two sets of variables if one or both of them was skewed.
- The confidence interval was set to 95% and the margin of error accepted was set to 5%. So, the p-value was considered significant as the following:
 - Probability (P-value)
 - P-value <0.05 was considered significant.
 - P-value <0.001 was considered as highly significant.
 - P-value >0.05 was considered insignificant.

Results

Table (1): Number and percentage distribution of studied parents according to their characteristics (N=100).

Characteristics	No.	%
Mother age in years		
20- ≤30	45	45
>30- ≤40	28	28
>40-54	27	27
Mean ± SD	34.01±9.18	
Mother education		
Illiterate	10	10
Read& write	15	15
Primary	11	11
Secondary or diploma	45	45
University	19	19
Mother occupation		
Housewife	68	68
Working	32	32
Family income		
Sufficient	67	67
Insufficient	33	33

The characteristics of the studied mothers were illustrated in table (1) The results revealed that 28% of the mothers of epileptic children were in the age group between 30 to < 40 years old and those who were at age of 40 to 54 years old constituted 27%, with a mean age 34.01 ± 9.18 years. As regard mothers' educational level, it was found that 45% of mothers had secondary or diploma education. While 10% of them were illiterate, and only 19% of them were graduated from university. Regarding occupation, the present study showed that 68% of mothers were housewives and only 32% were working. In relation to family monthly income, it was revealed that 33% of the studied mothers had insufficient income compared to 67% had sufficient income.

B: Characteristics of epileptic children:

Table (2): Number and percentage distribution of studied children according to their characteristics (N=100).

Characteristics	No.	%
Age in years		
2	16	16
4	40	40
6-10	44	44
Mean±SD	5.44±2.47	
Gender		
Male	71	71
Female	29	29
Birth Order		
First	46	46
Second	26	26
Third	22	22
4th and more	6	6
Residence		
Rural	54	54
Urban	46	46

Table (2) shows the characteristics of the epileptic children. Regarding to the age, it was found that 44% were at the age group from 6 to 10 years, while 16% aged 2 years, with a mean age 5.44 ± 2.47 years. As regards the sex, it was shown that 71% were males compared to 29% of studied children were females. It was also found that 46% of epileptic children ranked the first born, while second - bon were constituted 26%. Regarding residence, the results revealed that 54% of the studied children were from rural areas compared to 46% from urban areas.

Table (3): Number and percentage distribution of studied children according to their school history (N=100).

Items	No.	%
School year / Education		
Not enter nursery school	8	8
Nursery School	48	48
Primary School	44	44
Scholastic Achievement (N=93)		
Bad	4	4.30
Average	26	27.96
Good	63	67.7
School regularity (N=93)		
Yes	69	74.2
No	24	25.8
Causes of school irregularity (N=24)		
-Miss school due to illness	5	20.8
-Fearing of mother to exposure to fits in the school	12	50.0
-The child refused to go to school	7	29.2
Previous Academic Failure (N=93)		
Yes	14	15.05
No	79	84.95

Children's academic data (School history) was illustrated in table (3). Concerning the child's level of education, 44% were in primary school, while 8% were not enter nursery school and only 48% were going to the nursery school. Regarding the scholastic achievement of epileptic children, it was found that 4.30% had bad achievement as reported by their mothers, while 27.96% had average scholastic achievement. As regard school regularity, the result revealed that 25.8% didn't go to school regularly and miss school days compared to 74.2% who went to school regularly. In relation to causes of school irregularity, 20.8% missed school because of their illness periods, while 50% didn't go to school regularly because of parent's fear of their children's exposure to fits in the school. The present study also revealed that 84.95% of the epileptic children had no previous academic failure compared to 15.05% had previous academic failure.

Table (4): Number and percentage distribution of studied children according to their medical history (N=100).

Medical history	No.	%
Age of onset		
<2 years	52	52
3-4 years	42	42
5+ years	6	6
Perinatal Risk Factors		
Antenatal		
Preeclampsia	35	35
Medical conditions \$	5	5
Infections	27	27
Hepatitis of mother	8	8
Vaginal bleeding	2	2
Others	23	23
Natal		
Labor difficulties	15	15
Cesarean section	53	53
Normal vaginal delivery at home	21	21
Birth trauma of head injuries	7	7
Low oxygen during birth (cyanosis)	3	3
Postnatal		
Head trauma	7	7
Admitted to incubator for low birth weight/low o2	49	49
NICU due to neonatal jaundice/Meconium aspiration	6	6
Others	38	38
High temperature accompanied by seizures		
Yes	46	46
No	54	54
Occurrence of head trauma in the last 2 years		
Yes	13	13
No	87	87

Table (4) portrays the medical history of the studied children. The results reported that, the age of onset of epilepsy ranged from birth to 2-4 years. Regarding perinatal risk factors, 5% of mothers had medical conditions as diabetes, and 21 % had normal vaginal delivery at home, also 49% of epileptic children admitted to incubator because of low birth weight or low oxygen after birth. This table also indicated that, 46% of epileptic children had previous fever accompanied by seizures, and 13% had previous head trauma in the last two years.

Discussion

The study showed number and percentage distribution of studied parents according to their characteristics. The characteristics of the studied mothers were illustrated in study. The results revealed that 28% of the mothers of epileptic children were in the age group between 30 to < 40

years old and those who were at age of 40 to 54 years old constituted 27%, with a mean age 34.01 ± 9.18 years, and mothers' educational level, it was found that 45% of mothers had secondary or diploma education. While 10% of them were illiterate, and only 19% of them were graduated from university.

Concerning the socio-demographic characteristics of studied epileptic children, the results of the present study showed that more than one third of the studied children were at the age group from two years with a mean age 5.44 ± 2.47 years. This finding goes in line with **Isler et al., (2014)** who conducted a study to determine the complementary and alternative approaches used by parents of children with epilepsy on epilepsy management in (**Turky**) also, **Cramer et al., (2014)** in a study about annual health care utilization and costs in children with epilepsy in (USA) and they found that children with epilepsy were at the age group from 7-11 years.

Regarding occupation, the present study showed that 68% of mothers were housewives and only 32% were working. In relation to family monthly income, it was revealed that 33% of the studied mothers had insufficient income compared to 67% had sufficient income, number and percentage distribution of studied children according to their characteristics of the epileptic children. Regarding to the age, it was found that 44% were at the age group from 6 to 10 years, while 16% aged 2 years, with a mean age 5.44 ± 2.47 years. As regards the sex, it was shown that 71% were males compared to 29% of studied children were females.

It was also found that 46% of epileptic children ranked the first born, while second - bon were constituted 26%. Regarding residence, the results revealed that 54% of the studied children were from rural areas compared to 46% from urban areas. number and percentage distribution of studied children according to their school history Children's academic data (School history) was illustrated. Concerning the child's level of education, 44% were in primary school, while 8% were not enter nursery school and only 48% were going to the nursery school. Regarding the scholastic achievement of epileptic children, it was

found that 4.30% had bad achievement as reported by their mothers, while 27.96% had average scholastic achievement.

As regards residence areas of the studied epileptic children, the results clarified that most of the studied epileptic children were from rural areas. Perhaps ' result is related to the fact that the data was collected from the gamal hospital treatment is for free and it serves usually low and middle classes while families belonging to upper socioeconomic class treated their children in private hospitals or even abroad. This finding matched with the study conducted by **Kbedr et al., (2013)** who carried out a study to estimate the epidemiological features of epilepsy in a representative governorate of Upper Egypt and they reported that the crude prevalence rate of epilepsy is higher in rural than urban areas (17.7/1000, 9.56/1000 respectively). Another study conducted by **Maigaet al., (2014)** about current beliefs and attitudes regarding epilepsy in **Mali**, and they found that two thirds of studied children were living in rural areas.

As regard school regularity, the result revealed that 25.8% didn't go to school regularly and miss school days compared to 74.2% who went to school regularly. In relation to causes of school irregularity, 20.8% missed school because of their illness periods, while 50% didn't go to school regularly because of parent's fear of their children's exposure to fits in the school. The present study also revealed that 84.95% of the epileptic children had no previous academic failure compared to 15.05% had previous academic failure.

The present study showed that 41% of epileptic children were in primary education and 24% of them missed school days. These results might be due to seizure complications as learning difficulties, and the fact that parents tend to over protect their sick child especially if she/he has a chronic illness

as epilepsy. This finding is in agreement with previous study conducted in Egypt by **Mahmoud, (2009)** to investigate the prevalence of epilepsy among primary school children in **El-Minia city/ Egypt** and she reported that the lifetime prevalence of epilepsy among primary school children was **7.2/1000**. Our results also are similar to **El Nagar et al, (2013)** who carried out a study to estimate the prevalence of idiopathic epilepsy among primary school children in Gharibia Governorte in **(Egypt)** and they found that the high incidence of epilepsy was among primary school children. Moreover, **Rodenburget al, (2013)** who carried out a study about parenting and restrictions in children with epilepsy and they found that more than half of epileptic children were in primary school.

The study show number and percentage distribution of studied children according to their medical history portrays the medical history of the studied children. The results reported that, the age of onset of epilepsy ranged from birth to 2-4 years. Regarding perinatal risk factors, 5% of mothers had medical conditions as diabetes, and 21 % had normal vaginal delivery at home, also 49% of epileptic children admitted to incubator because of low birth weight or low oxygen after birth.

The present study revealed that 41% of the epileptic children were first bom. This finding may be attributed to the young age of their mothers and the associated high incidence of prenatal complications, as prolonged labor, low birth weight and anoxia. This finding is in agreement with **Abdel-Kader et al., (2015)** who conducted a study about effect of antiepileptic medications on the quantitative electroencephalogram of epileptic children in **(Egypt)** and found that most of the studied children were the first. Also, **Isleret al, (2014)** found that about half of studied children were the first born.

This study also indicated that, 46% of epileptic children had previous fever accompanied by seizures, and 13% had previous head trauma in the last two years.

The study show number and percentage distribution of studied children according to their current patient history Regarding seizure frequency, 49% of epileptic children had more than one attack per month, while 14% had more than one attack per day. It was also revealed that 48% of seizures occurred at any time during the day.

Regarding frequency of seizures, the current study showed that about half of the children had more than one fit per day. This high percentage of daily fits might be due to the lack of mothers' awareness about the child's condition, negligence of some parents about drug compliance, and exposure of children to seizure aggravating factors. This matches with the result conducted by **Begley et al., (2010)** who conducted a study about the cost of epilepsy in the United States and found that 70% of children had fits daily, 10% weekly and 20% monthly. Moreover **Dehn et al, (2014)** who carried out a study to examine the psychometric properties of the different versions of the impact of family scale (IOFS) in parents of children with epilepsy and portrayed that most of the studied children had more than one fit per day. While, **Ggunrin et al., (2013)** in a study to determine the causes of epilepsy m Nigerian Africans, and found that less than half of studied sample had frequent seizure **(1-3 fits per week)**.

In relation to antiepileptic drugs (AEDs) used for treatment of epilepsy **Ismaiet et al., (2014)** who conducted a study to assess subjective forgetfulness among patients with epilepsy (PWE) and its relation with epilepsy comorbidities found that Sodium Valproate (Depakine) was the most commonly used drug as monotherapy or in

combination, followed by carbamazepine, Phenytoin, clonazepam and leviratracetam (Teratame) respectively. These matches with the result of the current study where Depakine was the most commonly used antiepileptic drug (71.7%), followed by Tegretol and Tiratam respectively.

The study show Cont. Number and percentage distribution of studied children according to their current epileptic children history show Emotional stress and anxiety 50% while 38.9% inadequate sleep in Trigger factor 38.9%. and Mono 62% of Number of current epilepsy drugs while Debakin 66% of What medications do your child have at the moment and 34% in Tigratual, While Does your child take emergency medicines in 17% yes and 83% No.

Incorrect information about epilepsy increases the stigma and makes the lives of children with epilepsy more difficult. In addition misconceptions are common about epilepsy, especially in undeveloped countries where a majority of the population has lower educational levels **Aydemir, (2011)**.

The Study show number and percentage distribution of studied children according to their family history does a family member have epilepsy 74% Answer No and 26% answer yes. while Second degree 65.4% and first degree relatives 30.8, and 61% in Is there a relationship between the father and the mother in yes while 39% answer No, and Number and percentage distribution of parents' according to their compliance with medication regimen and follow up show represents mothers' compliance with medication regimen and follow-up. Results of the present study showed that, 74% of mothers complied with treatment regimen; compared to 26% did not comply. Regarding to causes of non-compliance with antiepileptic drugs 7.7% of mothers mentioned because of their

negligence and 26.9% mentioned fear of drug toxicity.

In relation to compliance with follow up, 80% of mothers complied. It also revealed from the same study that 10% of the studied mothers came to neurology outpatient clinic once every two months for follow up.

The study show number and percentage distribution of parents' according to their knowledge about the disease: meaning, causes and common age of epilepsy Mothers' knowledge about the disease (epilepsy) was shown the results revealed that 70% of mothers answered the meaning of epilepsy as Disturbance in brain function., while 26% Abnormal behavioral changes the meaning of epilepsy.

When mothers were asked about causes of epilepsy, 12% of them didn't know, while 84% answered in unknown causes. The same study shows that 12% of mothers did not know the common age of occurrence of epilepsy.

In the present study more than half of mothers did not know causes of epilepsy. This result goes in line with **Frank&Alikor, (2011)** who found that the majority of the studied parents' responses about causes of epilepsy were unknown. Also **Shehata&Mahran, (2013)** who carried out a study to assess knowledge and attitude of epilepsy among guardians/parents of Egyptian high schools students in Assiut city "Egypt" and they found that less than half of the studied parents' knowledge about causes was unknown. In another study conducted by **Inaloo and Katibeh, (2011)**, it was found that the common cause of epilepsy is perinatal problems such as asphyxia, sepsis and neonatal hypoglycemia. This finding goes in line with the results of the present study where problems and difficulties during

labor were mentioned by less than one third of the studied mothers.

The study show number and percentage distribution of parents' according to their knowledge about triggers factors of their children's epilepsy attacks illustrated mothers' knowledge about triggers factors of their children's epileptic attacks, it was found that 7% of mothers did not know factors that may precipitate seizure, while 35% , 58% Answered missed medication and playing videogames, and number and percentage distribution of parents' according to knowledge about the disease: meaning, causes and common age of epilepsy Mothers' knowledge about methods of diagnosis and preventive measures of epilepsy were represented. Regarding methods of diagnosis, 89% of mothers reported history was the main method of diagnosis, compared to 5% did not know.

When mothers were asked about preventive measures of epilepsy, 19% of them answered did not know while, appropriate perinatal care was reported by 71% of mothers.

The study show number and percentage distribution of parents' according to their knowledge about treatment options, duration of treatment, and side effects of antiepileptic medications. It was found that 64% of mothers AEDs the treatment options of epilepsy, while 29% mentioned that Vagus Nerve Stimulation of epilepsy.

When mothers were asked about duration of treatment, 56% answered 1-2 Years, and only 44% mentioned that the duration from Don't know.

Regarding side effects of antiepileptic medication, 29% of mothers Nausea and vomiting the side effects of Depakine, while Increase of appetite by 30.6 % of them. In

relation to Tegretol side effects, 44 % Sleepiness, compared to 32% reported that Headache

On the other hand, 31.6% of mothers reported that nervousness is a side effect of Topiramate. It is revealed from the same study that 50% of studied mothers Headache the side effects of Tiratame.

Regarding as number and percentage distribution of parents' according to their knowledge about health problems associated with epilepsy show Mothers' knowledge about health problems associated with epilepsy was reported. When mothers were asked about physical problems related to epilepsy, 12.2% of them answered that their epileptic children always suffer from loss of appetite; also 5.4% suffer from bruises and lacerations due to falling during the attack. In relation to cognitive problems, 33.3% of mothers mentioned that their epileptic children suffer from Easily distracted; Forgetfulness, and 16.7% suffer from language and speech problems.

As regard to behavioral problems, 18.8% of mothers reported that their epileptic children become hyperactive, and 9.4% become aggressive. Concerning social problems, 50% of mothers feel as different from others, while 31.3% reported that their children always suffer from loneliness and avoid contact with others.

Regarding as Number and percentage distribution of parents' according to their knowledge about dangers which expose child to risk during fit show illustrates mother's knowledge about dangers which expose child to risk during fits. It was found that 16% of mothers answered I do not rambler your source of epilepsy, while 87% mentioned that high places as Dangers which expose child to risk during Fit.**And** Number and percentage distribution of parents' according to their total knowledge shows the

percentage distribution of total knowledge among parents included in this study. As regards to the unsatisfactory 75% and satisfactory 25% of total knowledge.

The results also revealed that, 50% of epileptic children always complained of sickness, headache and/or pain in the muscles as reported by their mothers, and 57% reported long of After an attack, how long does it take, until your child can resume normal activity.

The study show number and percentage distribution of children according to their level of seizure severity scale shows the percentage distribution of level of seizure severity scale among children included in this study. As regards to the low seizure severity scale 7%, average seizure severity scale 30% and high seizure severity scale 63% of seizure severity scale, and number and percentage distribution of parents' according to their knowledge about How to Prevent Fit and Care at the Beginning of Fit Mothers' knowledge about how to prevent occurrence of fit and their care at the beginning of fits were illustrated. It was showed that, 1% of mothers did nothing, while 2% mentioned medical follow-up as a practice to prevent fit. Regarding mothers' care at the beginning of epileptic fit, it was revealed that, 10% of studied mothers did nothing, compared to 1% stated that they support and calm the child at the beginning of fit.

Regarding as number and percentage distribution of parents' according to their Knowledge about Care Practices during an Epileptic Fits and conditions needs Seeking Medical help of Remain Calm in Fare during epileptic fit 86% while 6% of Time seizure episode, and 82% of child stops breathing in Feeling medical help during the attack if while 9% of Attack continued from 5-10 min and 7% reported Don not know and number and percentage distribution of parents'

according to their Knowledge about Care Practices After an Epileptic Fits Mothers' knowledge about care practices after an epileptic fits were illustrated. As regards care practices after fit, 5% of mothers did nothing, while 49% mentioned that they All of the above, and only 46% reported that they record time of seizure, precipitating factors, and behavior of child.

The study show number and percentage distribution of parents' according to their Knowledge about Care Practices in ease of petit mal epilepsy and Febrile Epilepsy shows mothers' knowledge about care practices in cases of petit mal and febrile epilepsy. Results clarifies that 62% of studied mothers follow up frequency of attacks, and consult doctor in case of petit mal, while 1% mentioned no beating their epileptic children.

When mothers were asked about care practices in case of febrile epilepsy, 97% of them said that they made Follow up temperature to reduce child's fever, and 3% gave antipyretics as doctor ordered.

The study show number and percentage distribution of parents' according to their Knowledge about Care Practices Regarding Side Effects of AEDs Mother's knowledge about care practices regarding side effects of AEDs were portrayed. As regards to precautions that should be taken to avoid side effects of antiepileptic drugs, the results showed that 23% of mothers reported that they did not take any precautions, and 62% of mothers reported that they Regular monitor blood tests therapeutic levels.

It was also observed from the same study that 29% of mothers didn't take any action to manage side effects of antiepileptic drugs, while 71 % mentioned that they were consult the physician about their observations.

The study show number and percentage distribution of parents' according to their total practice Shows the percentage distribution of total practice among parents included in this study. As regards to the incompetent 61% and competent 39% of total practice while relation between parents satisfied regarding total knowledge and their mothers characteristics. The relation between parent's demographic characteristics and satisfactory regarding total knowledge. The result found that there were statistically significant education, occupation and family income, with p-value <0.05 S

The study show relation between parents satisfied regarding total attitude and their mothers characteristics. The relation between parent's demographic characteristics and positive attitude regarding total attitude. The result found that there were statistically significant age, education and family income, with p-value <0.05 S, while show relation between parents competent regarding total practice and their mothers characteristics. The relation between parent's demographic characteristics and competent regarding total practice. The result found that there were statistically significant education, occupation and family income, with p-value <0.05 S

According as correlation between parents knowledge, attitude and practice, using Spearman's rank correlation coefficient show Positive correlation and significant between parents knowledge, attitude and practice and relation between children level of severity regarding level of seizure severity scale and their children characteristics. Shows the relation between children demographic characteristics and severity scale regarding level of seizure severity scale. The result found that there were statistically significant age in years, with p-value <0.05 S

We found a correlation with the belief that epilepsy is a mental disease or correlates with evil, which explains why they

reverted to these interventions. Finally, many parents felt that the child can achieve allot in the future with the risk of societal discrimination. Most of them knew what to do in an acute seizure situation, however, up to 14% performed unnecessary procedures such as sprinkle water to the face, shake, or carry the child around. We did not encounter other inappropriate or potentially harmful procedures related to mythical concepts that were reported by other authors from developing countries, such as forcing liquids by mouth, pressure over body to restrain convulsive movements, or putting some object to force the teeth open (Bains HS, et al., 1992)

There are some limitations to our study. Our sample was not large; however, it was representative of children with epilepsy with variable ages and socio-demographic backgrounds. Parent's reporting bias may have affected the results since the questions on their knowledge and attitudes are predisposed to subjective judgments. We tried to overcome this problem by assigning one coauthor to personally assist all parents in completing the questionnaire. Finally, the questionnaire is self-structured and hence has not been used or validated in previous studies.

We conclude that the level of knowledge and understanding among parents of children with epilepsy needs improvement. Many parents have significant misconceptions, negative attitudes, and poor parenting practices. These correlated with their educational levels and had significant implications on the medical management. Therefore, there is a need for improving the degree of knowledge, which will help in improving their attitudes toward epilepsy. Demystification of wrong beliefs will influence the family positively and improve the relationship with their child. This is also true for the general public (Li Y, et al., 2008); (Hirfanoglu T, et al, 2009).

Therefore, educating the community about epilepsy is also essential. The media, as well as, government authorities should play a major role in increasing the public awareness. Parents, teachers, and school children should be targeted with such educational programs. Increased awareness and public educational campaigns can be successful in filling the gaps, ameliorating misconceptions, and minimizing the social stigma, and ultimately improving the quality of life of the children with epilepsy and their families.

Conclusion

Based upon the findings of the present study, it was concluded that the majority of mothers' had poor knowledge about epilepsy and most of them had poor practices regarding care of their epileptic children. Moreover, there was positive correlation between mother's knowledge and their practices in caring for their epileptic children.

Recommendations

Based upon the findings of the present study, the following are recommended:

1. Continuous, repetitive health instructions and educational programs should be held for mothers of epileptic children in outpatient specialized clinics, based on needs assessment to raise their awareness regarding epilepsy.

2. Continuous counseling of mothers should be established at outpatient clinic at each visit.

3. Designing booklets and written leaflets containing basic knowledge about epilepsy, home management and seizure first aids should be available and distributed in

outpatient clinics.

4. Conduct a support groups for epileptic children's mothers to cope with the illness of their children.

5. Pre-marital counseling for couples who have a family history of epilepsy is necessary.

6. A multidisciplinary team consisting of neuropediatric physician, psychiatrist, and epilepsy specialized nurse, social worker and psychologist should be involved in teaching and helping mothers to overcome their stress and adapt positively to their epileptic children's condition.

7. Assess the needs of the epileptic children and their families and measures to fulfill these needs.

8. Educating the public about epilepsy through the mass media could go a long way in reducing the morbidity and mortality associated with this disorder.

9. Establishing a standard of care for children with epilepsy in hospitals and clinics is essential.

Further studies are suggested:

- Assessment of parents knowledge and reported practices regarding care provided to children suffering from epilepsy.

- In service, a training program for nurses to improve their performances about care provided to children with epilepsy.

- Identify factors affecting the mothers' knowledge and practices regarding care of their epileptic children.

- Identify factors affecting nurses' performance regarding care of epilepsy and strategies for its improvement.

Financial support

No funding was received

Conflict of interest

No

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